

REMARKS

Claims 1-63 are currently pending in the application. Claims 1 and 39 have been amended herein.

Claims 1-63 have been rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 7,085,788 B2 (hereinafter referred to as “the ‘788 patent”) to Arakawa et al.

Independent claim 1 is directed to a system for use in providing data storage and data copies over a computer network, comprising a storage server system and a data management system. The storage server system comprises one or more data storage servers that each comprise a data storage device and a network interface. Further, each of the data storage servers is operable to communicate over said network interface with at least one application client that will require data storage and at least one other data storage server. The data management system comprises at least one data management server operable to (a) define at least a first and a second cluster each comprising one or more data storage servers, (b) define at least one primary volume of data storage distributed over at least two of the storage servers within one of the clusters, the primary volume storing data from the application client, (c) define at least one remote volume of data storage distributed over one or more of the storage servers within one of the clusters; (d) create snapshots of the primary volume with the creation of a first snapshot of said snapshots also causing the establishment of a new layer as the primary volume, said new layer containing a pointer to data in said first snapshot; and (e) copy data from the snapshots over the computer network to the remote volume.

The ‘788 patent is directed to a data storage system that stores data employed by a computer and that transfers a copy of the stored data to another storage system. Consistency of the copy is maintained even in the case of data written to the storage system that does not bear a write time. The ‘788 patent discloses the use of snapshots. However, the ‘788 patent does not teach or suggest the creation of snapshots of a primary volume with the creation of one of these snapshots also causing the establishment of a new layer as the primary volume and with the new layer containing a pointer to data in the snapshot. Moreover, the ‘788 patent does not teach or suggest the creation of such a snapshot in combination with any combination of the other elements of data management system and the elements of the storage server system as set forth in claim 1.

Independent claim 39 is directed to a method for copying data from a primary data storage volume to a remote data storage volume in a distributed data storage system. The method comprises:

(a) defining a first primary volume of data storage distributed over at least two data storage servers within a first cluster of data storage servers, each of the data storage servers comprising a data storage device and a network interface; (b) generating a first primary snapshot of the first primary volume, the first primary snapshot providing a view of data stored at the first primary volume at the time the first primary snapshot is generated, the said first primary snapshot also causing the establishment of a new layer as the primary volume, the new layer containing a pointer to data in the first primary snapshot; (c) creating a first remote volume distributed over one or more data storage servers within a cluster of data storage servers; (d) linking the first remote volume to the first primary volume; and (e) copying data from the first primary snapshot to a first remote snapshot associated with the first remote volume.

The '788 patent is directed to a data storage system that stores data employed by a computer and that transfers a copy of the stored data to another storage system. Consistency of the copy is maintained even in the case of data written to the storage system that does not bear a write time. The '788 patent discloses the use of snapshots. However, the '788 patent does not teach or suggest the creation of a first primary snapshot of a primary volume with the creation of the first primary snapshot also causing the establishment of a new layer as the primary volume with the new layer containing a pointer to data in the snapshot. Moreover, the '788 patent does not teach or suggest the creation of such a first primary snapshot in combination with any combination of the other elements set forth in claim 39.

Each of claims 2-38 and 40-63 is a dependent claims that depends either directly or indirectly from one of independent claims 1 and 39. Consequently, each of these dependent claims is at least allowable for the reasons noted with respect to the independent claim from which it depends. However, each of these dependent claims may be allowable for additional reasons, and the applicant reserves the right to assert any such reason in the future.

No claim related fees are believed to be due with this response. In the event any such fees are due, please debit Deposit Account 08-2623.

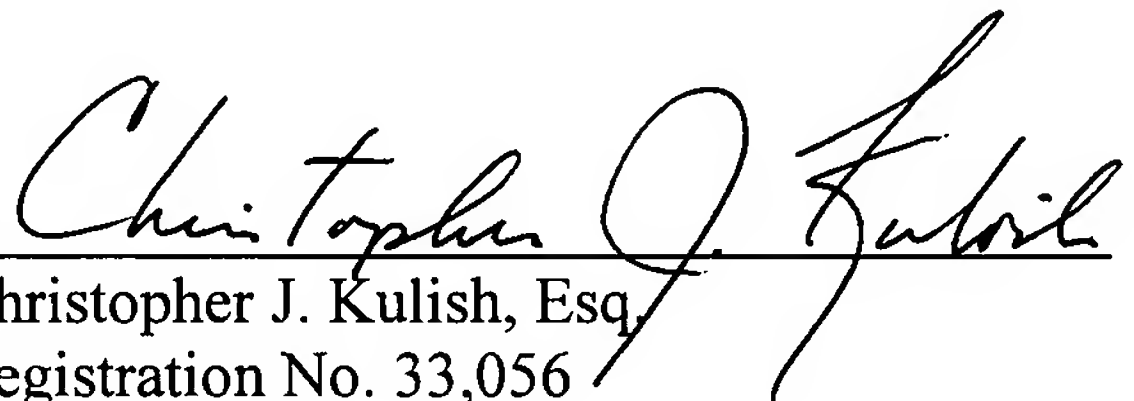
In the event that a petition for extension of time under 37 CFR §1.136(a) is required to have this reply considered and such a petition does not accompany this reply, please consider this a

petition for an extension of time for the required number of months and authorization to debit Deposit Account 08-2623 for the required fee.

The application now appearing to be in form for allowance, reconsideration and allowance thereof is respectfully requested. If a telephone conversation will further the prosecution and/or expedite allowance, the examiner is invited to contact the undersigned attorney.

Respectfully submitted,

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